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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/01/2006

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EXAMINER

WANG, TED M

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,430

Applicant(s)

HU ET AL.

Examiner

Ted M. Wang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-18,20,23-33 and 35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-8, 21,23-28 is/are rejected.
- 7) ☒ Claim(s) 9-18,20,29-33 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed on 01/30/2006, with respect to the rejection of claims 1, 3-18, 20, 21, 23-33 and 35 under 35 USC 103(a) has been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Nagatomi (US 4,794,458).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 5-8, 21 and 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lätt (US 5,987,304) in view of Nagatomi (US 4,794,458).

- With regard claim 1, 21 and 23, as shown in figure 2, Lätt discloses a variable bandwidth transmission/receive device, comprising:

- a) a first input (Fig.2 RF in) for receiving a message bearing signal characterized by a bandwidth that is variable (see title);

- b) a second input for receiving a bandwidth control signal characterized by a frequency (Fig.2 output from element 28);

c) a filtering stage (Fig.2 elements 10, 11 et al.) for processing the message bearing signal and the bandwidth control signal to generate an output signal characterized by a bandwidth, said filtering stage being responsive to a change of frequency of the bandwidth control signal to alter the bandwidth of the output signal (column 2, lines 50-column 3, lines 10);

d) a bandwidth control signal source connected to said second input for supplying the bandwidth control signal (Fig.2 element 28); and

Lätt discloses all of the subject matter as described in the above paragraph except for specifically teaching a control logic coupled to said bandwidth control signal source, said control logic being operative for detecting a change of the bandwidth of the message bearing signal and for causing said bandwidth control signal source to change the frequency of the bandwidth control signal on a basis of the detected change.

However, Nagatomi teaches a control logic (Fig.2 element 20) coupled to said bandwidth control signal source (Fig.2 element 12), said control logic being operative for detecting a change of the bandwidth of the message bearing signal (It is inherent that the logic control circuit 20 detects the change of the bandwidth of the input message bearing signal since it controls the cut off frequency of filter 18 and the oscillation frequency of the variable oscillation 12.) and for causing said bandwidth control signal source to change the frequency of the bandwidth control signal on a basis of the detected change (column 3 lines 1 – column 4 lines 14) in order to tune the reception device to any channel frequency by

merely adjusting the control unit 20 so that the variable oscillation frequency is adaptable to the channel frequency and any frequency higher than the channel frequency is shut off, and there is no need of exchange of parts or components (column 4 lines 15-21) so that the undesirable interference can be improved (Abstract lines 11-16).

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the control logic circuitry 20 and the variable filter 18 in a transmission device as taught by Nagatomi to replace the frequency control circuit (Fig.2 element 28) and 3 IF1 circuit (Fig.2 element 24c) of the Lätt's transmission device so as to improve the undesirable interference.

- With regard claims 5 and 25, Lätt further discloses wherein said filtering stage includes band pass filters (Fig.2 elements 24a, 25, 24b, 26, 24c and 27 and column 2 lines 50-54).
- With regard claims 6 and 26, Lätt further discloses wherein said filtering stage includes a first mixer (Fig.2 element 20) having two inputs (Fig.2 element 20 - an output of A1 and an output of 23) and an output (Fig.2 element 20 -an input of 20), the output of said first mixer being coupled to an input of a first band pass filter (Fig.2 element 24a and column 2 lines 50-54), one input of said first mixer being coupled to said first input for receiving the message bearing signal, the other input of said first mixer receiving a signal at a first frequency (Fig.2 element f1).

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- With regard claims 7 and 27, Lätt further discloses wherein said filtering stage includes a second mixer (Fig.2 element 20a) having two inputs (see figure 2) and an output (Fig.2 an input of A3), one input of said second mixer being coupled to an output of said first band pass filter (Fig.2 element 24a), the other input of said second mixer receiving a signal at a second frequency (Fig.2 element f2), the output of said second mixer being coupled to an input of a second band pass filter (Fig.2 element 25).
 - With regard claims 8 and 28, Lätt further discloses wherein said filtering stage includes a third mixer (Fig.2 element 21) having two inputs and an output (see figure 2), one input of said third mixer being coupled to an output of said second band pass filter (Fig.2 element 25), the other input of said mixer receiving the signal at the first frequency (Fig.2 element f1), the output of said second mixer generating the output signal characterized by a bandwidth.
 - With regard claim 24, Lätt further discloses wherein filtering stage includes a first spectral shaping filter (Fig.2 element 24a) and a second spectral shaping filter (Fig.2 element 25).
4. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lätt (US 5,987,304) and Nagatomi (US 4,794,458) as applied to claim 1 above, and further in view of Liebetreu et al. (US 5,721,756).
- With regard claim 3, Lätt and Nagatomi disclose all of the subject matter as described in the above paragraph except for specifically teaching the filter in the filtering stage is characterized by a Nyquist bandwidth.

However, Liebetreu et al. teaches a receiver comprises a Nyquist filter with a variable bandwidth, wherein the bandwidth is controlled to reduce the ISI (col. 3, line 56 and lines 61-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a Nyquist filter with a variable bandwidth as taught by Liebetreu et al., into filtering circuit of the modified device of Lätt and Nagatomi to reduce the ISI (column 3 lines 54-65) and consequently improve the communication quality.

- With regard claim 4, Lätt further discloses wherein filtering stage includes a first spectral shaping filter (Fig.2 element 24a) and a second spectral shaping filter (Fig.2 element 25).

Allowable Subject Matter

5. Claims 9-18, 20, 29-33 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to overcome the objection(s) set forth in this Office action and rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M. Wang



Ted M Wang
Examiner
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